

[0177] In some embodiments, the detailed information can present a detailed breakdown of progress tracking information for subsections of a particular context. For example, a context can describe the structure of a set of problems assigned to the student. The progress tracking information can include information related to an answer the student provided to each problem in the set of problems. Thus, even though the answers to the set of problems is considered a parent context, child contexts for each problem in the set of problems can track answers to each individual question provided by a student. Thus, the detailed information can enable an instructor to view the specific answers given to each problem and whether the answer was correct or incorrect. The GUI 1400 can enable such visual representations of the progress tracking data to be easily viewed by the instructor.

[0178] In some embodiments, the client application 210 can output a result of the report data to a file or data structure to be archived for subsequent review by, e.g., the instructor and/or an administrator when determining final grades for each student in the class.

[0179] FIG. 15 is a flow chart of a method 1500 for tracking student activity on a client device, in accordance with some embodiments. The method 1500 is carried out by a client device 120. In some embodiments, the method 1500 can be implemented as logic configured to monitor activity associated with one or more applications. The logic can include instructions, executed by a processor 410 of the client device 120, for monitoring progress of a student to complete activities attached to a resource for a hand-out. In some embodiments, the method 1500 is implemented within logic implemented by daemon 440.

[0180] At 1502, progress tracking information is received from one or more applications. In some embodiments, the progress tracking information includes at least one of an application identifier corresponding to the application that generated the progress tracking information, a context identifier corresponding to a particular context associated with the application, a time stamp indicating a time that the progress tracking information was generated, or information indicating an operation that was performed within the application and/or a result of the operation. In some embodiments, the progress tracking information is received by a daemon within an API call generated by the application.

[0181] At 1504, the progress tracking information is filtered. In some embodiments, progress tracking information is filtered based on a determination of whether progress tracking is enabled or disabled for each of one or more applications installed on the client device. The progress tracking information is discarded when the progress tracking information is received from any applications for which progress tracking is disabled, and the progress tracking information is processed when the progress tracking information is received from any applications for which progress tracking is enabled. In other embodiments, a list of active contexts associated with one or more applications is received, and the progress tracking information is compared against the list of active contexts. For example, a context identifier included in the progress tracking information is compared with a number of context identifiers included in the list of active contexts. The progress tracking information is discarded when the progress tracking information corresponds with a context that is not included in the list of active contexts, and the progress tracking information is processed

when the progress tracking information corresponds with a context that is included in the list of active contexts.

[0182] At 1506, the progress tracking information is stored in a remote database accessible from a network. In some embodiments, the remote database is a network-based storage service employing different zones to store different types of data limited to a particular scope. Each zone storing progress tracking information can be protected with a disk-based encryption, and access to the data can be limited to trusted servers using authentication and message signing techniques. The progress tracking information can be stored in a personal zone within the network-based storage service, the personal zone associated with a particular user identifier for a user account associated with a client application installed on the client device.

[0183] At 1508, metadata associated with the progress tracking information is generated.

[0184] The metadata can include a subset of information in the progress tracking information, such as a user identifier and/or a context identifier as well as information such as a reference to the progress tracking information stored in the remote database 460.

[0185] At 1510, the metadata for the progress tracking information is transmitted to a progress pipeline. In some embodiments the progress pipeline enhances and aggregates progress tracking information received from a plurality of different client devices associated with a plurality of different students in one or more classes among one or more organizations. The progress pipeline can include a number of services implemented on a number of different server devices.

[0186] FIG. 16 is a flow chart of a method 1600 for processing progress tracking information utilizing one or more services available over a network, in accordance with some embodiments. The method 1600 is carried out by the progress pipeline 250. In some embodiments, the method 1600 can be implemented as logic configured to process at least one of progress tracking information or metadata corresponding to the progress tracking information. The logic can include instructions, executed by a processor 410 of the server device 110, for processing the progress tracking information and/or metadata. In some embodiments, the method 1600 is implemented within logic implemented by one or more services including an on-ramp service 1210, an enrichment service 1220, a distributed file system 1230, an aggregator service 1240, an off-ramp service 1260, and a deposit service 1270.

[0187] At 1602, metadata corresponding to progress tracking information is received from a plurality of client devices. In some embodiments, the metadata can include a reference to progress tracking information stored in a remote database. The metadata can also include at least one of a class identifier, a user identifier, or a context identifier corresponding to the progress tracking information.

[0188] At 1604, the metadata is enriched with additional information. In some embodiments, the metadata, supplemented by the additional data, correlates the progress tracking information with an organization identifier, a class identifier, a directory service identifier, a context identifier, and, optionally, a hand-out identifier.

[0189] At 1606, a data structure is generated that includes a subset of metadata received by the progress pipeline during a tracking window for a particular organization. In some embodiments, a distributed file system utilizes at least